



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.: 09/934,812
Filing Date: August 22, 2001
Applicant: William J. Purpura
Group Art Unit: 2672
Examiner: Hwa C. Lee
Title: Method and Apparatus for Providing Visual
Security for Computer Displays
Attorney Docket: 7784-000326

Director of The United States Patent and Trademark Office
P.O. Box 1450
Alexandria, Virginia 22313-1450

DECLARATION UNDER 37 C.F.R. § 1.131

Sir:

I hereby declare:

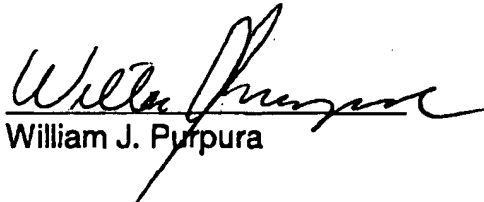
1. That I am the inventor who, on August 22, 2001, filed the above-identified application.
2. That my invention was at least conceived in the United States prior to August 7, 2001, the effective filing date of U.S. Publication No. 2003/0039195A1 to Long et al., as evidenced by a detailed description of my invention, and that efforts were diligently made thereafter to reduce the invention to practice. A photocopy of this detailed description is attached as Exhibit A.
3. That each of the dates deleted or otherwise blacked out from Exhibit A are prior to August 7, 2001.

BEST AVAILABLE COPY

4. That I have never abandoned, suppressed or concealed my invention.

5. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 the United States Code, and that such willful false statement may jeopardize the validity of the application, and patent issuing thereon, or any patent to which this verified statement is directed.

Date: 6/14/04


William J. Purpura



BOEING PROPRIETARY *W. Hen*

01-402
ATMUR

INVENTION DISCLOSURE *009536*

This form is to be used for disclosure to The Boeing Company of inventions, discoveries, improvements or innovations, whether or not considered patentable. See above for instructions.

A									
Portable Computing Visual Security System									
INVENTOR NAME (FIRST M I LAST) William J. Purpura <i>[Signature]</i>		INVENTOR NAME (FIRST M I LAST) N/A		INVENTOR NAME (FIRST M I LAST) N/A		INVENTOR NAME (FIRST M I LAST) N/A			
SOCIAL SECURITY NO. 565-80-9078		SOCIAL SECURITY NO.		SOCIAL SECURITY NO.		SOCIAL SECURITY NO.			
ORG. NO. 727	MAIL STOP 1640-1102	ORG. NO.	MAIL STOP	ORG. NO.	MAIL STOP	ORG. NO.	MAIL STOP		
PHONE	(949) 790-1651	PHONE		PHONE		PHONE			
Home Address		Home Address		Home Address		Home Address			
Street: 676 S. Scout Trail		Street:		Street:		Street:			
City/State/Zip: Anaheim, Ca 92807		City/State/Zip:		City/State/Zip:		City/State/Zip:			
Citizenship: USA		Citizenship		Citizenship:		Citizenship:			
BOEING EMPLOYEE (ADD SUBSIDIARY)		BOEING EMPLOYEE (ADD SUBSIDIARY)		BOEING EMPLOYEE (ADD SUBSIDIARY)		BOEING EMPLOYEE (ADD SUBSIDIARY)			
<input type="checkbox"/> Commercial Airplanes		<input type="checkbox"/> Commercial Airplanes		<input type="checkbox"/> Commercial Airplanes		<input type="checkbox"/> Commercial Airplanes			
<input type="checkbox"/> Military Aircraft and Missiles		<input type="checkbox"/> Military Aircraft and Missiles		<input type="checkbox"/> Military Aircraft and Missiles		<input type="checkbox"/> Military Aircraft and Missiles			
<input type="checkbox"/> Phantom Works		<input type="checkbox"/> Phantom Works		<input type="checkbox"/> Phantom Works		<input type="checkbox"/> Phantom Works			
<input type="checkbox"/> Shared Services Group		<input type="checkbox"/> Shared Services Group		<input type="checkbox"/> Shared Services Group		<input type="checkbox"/> Shared Services Group			
<input type="checkbox"/> Space and Communications		<input type="checkbox"/> Space and Communications		<input type="checkbox"/> Space and Communications		<input type="checkbox"/> Space and Communications			
CONTRACT EMPLOYEE		CONTRACT EMPLOYEE		CONTRACT EMPLOYEE		CONTRACT EMPLOYEE			
<input checked="" type="checkbox"/> OTHER (SPECIFY) Connexion By Boeing		<input type="checkbox"/> OTHER (SPECIFY) Connexion by Boeing		<input type="checkbox"/> OTHER (SPECIFY)		<input type="checkbox"/> OTHER (SPECIFY)			
MANAGER'S NAME / MAIL STOP Keith Rhine 1640-1102		MANAGER'S NAME / MAIL STOP		MANAGER'S NAME / MAIL STOP		MANAGER'S NAME / MAIL STOP			
PHONE (949) 790-1455		PHONE		PHONE		PHONE			
STATE OF DEVELOPMENT (See Remarks On Back)									
DATE CONCEIVED <i>[Redacted]</i>		<input checked="" type="checkbox"/> CONCEPT ONLY <input type="checkbox"/> PROVEN ANALYTICALLY <input type="checkbox"/> DESIGN COMPLETE		DATE BUILT		DATE SATISFACTORILY TESTED		<input type="checkbox"/> PROTOTYPE <input type="checkbox"/> IN PRODUCTION _____ DATE	
APPLICATION OF THE INVENTION									
PRODUCT/PROGRAM <input checked="" type="checkbox"/> Connexion by Boeing				PRODUCTION RELEASE E.G. PRR NO.				DATE	
POTENTIAL CUSTOMER(S) IN ADDITION TO BOEING Airlines hosting the CCB service									
DISCLOSURE OF INVENTION OUTSIDE BOEING									
DISCLOSED TO:		NAME(S)					DATE(S)		
<input type="checkbox"/> VENDOR									
<input type="checkbox"/> CUSTOMER									
<input type="checkbox"/> OTHER									
PUBLISHED <input type="checkbox"/> YES <input type="checkbox"/> NO		PUBLICATION NAME				DATE		VOLUME NO. PAGE	
DEVELOPMENT HISTORY									
1. WHAT BOEING ACCOUNT OR WORK ORDER WERE YOU CHARGING TO WHEN YOU MADE THIS INVENTION? None ACCOUNT OR WORK ORDER NO. FOR EACH INVENTOR (16-DIGIT CHARGELINE) 1) _____ 2) _____ 3) _____ 4) _____									
2. CHECK AS APPLICABLE: <input type="checkbox"/> THIS INVENTION WAS CONCEIVED OR FIRST BUILT AND TESTED IN THE COURSE OF WORK UNDER A U.S. GOVERNMENT CONTRACT. CONTRACT NO. OR OTHER IDENTIFICATION _____ <input checked="" type="checkbox"/> THIS INVENTION WAS NEITHER CONCEIVED NOR FIRST BUILT AND TESTED IN THE COURSE OF WORK UNDER A U.S. GOVERNMENT CONTRACT. <input type="checkbox"/> THE FOLLOWING ADDITIONAL PARTIES MAY HAVE RIGHTS TO THIS INVENTION: _____									
3. RELATED INVENTION DISCLOSURE NOS: _____									

DO NOT WRITE BELOW THIS LINE

SCI OR IIRF NO <i>01-402</i>	DATE RECEIVED <i>[Redacted]</i>	IPF <i>RJA</i>	Lead IPF	Tech Cont <i>EEG</i>	IPA
---------------------------------	------------------------------------	-------------------	----------	-------------------------	-----

[Signatures]

Invention Description:**Background:**

Traveler using portable computing devices, such as lap tops, have major problem operating these devices with any level of privacy due to the closeness of other travelers on most public conveyances. This means a businessperson reviewing company sensitive data in the middle of a row of seats on an airliner would face the possibility of at least two other users being able to read the data at the same time. The use of side screens to block any unwanted users view of the screen would be one solution but they are bulky, hard to setup, and restrict the operator's access to the device.

Details of proposed concept

The concept involved uses a combination of hardware and software to implement a commonly used color based masking system to allow only specific users to be able to read the contents of key business applications work files displayed on a color screen. The system is based around the property of color masking whereby text, which for this example will be written in dark Blue, is displayed against a bi-color irregular background.

The sample below shows how the text would appear under normal conditions

Sample of normal text displayed against a typical white background

In this case the background would consist of a mosaic pattern of alternating red and white diamonds whose form has been sized so that each diamond is about 25% the area of a typical text character. See the modified display below



To the unaided eye the screen now appears as an illegible jumble with the red, blue, and white colored areas totally distorting the actual solid blue text present. This prevents casual and/direct examination of the data on the screen even under the most intense visual examination. However, if a user dons a set of red tinted glasses which have been designed to match the color of red shown on the screen, while viewing the display the real text now becomes visible for reading and/or manipulation.

To seamlessly allow this feature to be used on the fly a Visual basic module has been developed which loads itself onto the standard tool bar of applications in the standard Microsoft Office tool suite. Once loaded the software provides an additional pull down menu which offers the following new options:

1. Enable color masking
 - a. Set masking color
 - b. Set masking pattern
2. Disable color masking
3. Save data file in original format
4. Save data file and disable color masking
5. Print/Fax clean output
6. Uninstall color masking tool

When the user accesses the pull down menu to start the system in any of the office application for an opened data file. The software save the current background setting for the file and then performs a block change to impose the blocking color mask using the color and/or patterns requested by the user. At this point the user dons the specific tinted glasses matched to this color shield and proceeds to work with the data file.

Any time that the user needs to save the data file to storage they can use the special save command. This blanks the screen, converts the file back to the original background, saves it to the disk, and then reset the color masks before re-displaying the screen for additional viewing/work. Once the user is finished with the file the second save command can be used which both saves the finale in the original background format as well as turns off the color-masking feature.

Willie Hansen [Redacted Signature]

J. Hiesen [Redacted Signature]

561-5
This same methodology is used if the user wishes to send a copy of the clean document to a local printer (or internal fax). Again, the software blanks the screen, converts the file back to the original background, sends the file to the printer, and then reset the color masks before re-displaying the screen for additional viewing/work.

Once the user is finished with the file the second save command can be used which both saves the finale in the original background format as well as turns off the color-masking feature.

Special features of this system is the ability to use three different masking colors, Red, Yellow, & Blue to offer additional security if a nearby user is operating the same color masking system. The software is structured so that in case of system failure or software error the data file retains the original background.

The system consists of a software package which can be installed via diskette, CD, or download via modem or from the Internet. The system also includes a single lens frame with three interchangeable colored lens set that provides Red, Yellow, and Blue color mask decoding. Once activated the software searches for all Microsoft Office applications, as well as other programs to be determined latter, and installs itself as part of the basic tool bar of each program. The tool can also uninstall itself at the users option as part of its built-in capability

11/20/01 [redacted]

J. Hieser [redacted]

**This Page is Inserted by IFW Indexing and Scanning
Operations and is not part of the Official Record**

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☐ **BLACK BORDERS**
- ☒ **IMAGE CUT OFF AT TOP, BOTTOM OR SIDES**
- ☐ **FADED TEXT OR DRAWING**
- ☐ **BLURRED OR ILLEGIBLE TEXT OR DRAWING**
- ☐ **SKEWED/SLANTED IMAGES**
- ☐ **COLOR OR BLACK AND WHITE PHOTOGRAPHS**
- ☐ **GRAY SCALE DOCUMENTS**
- ☐ **LINES OR MARKS ON ORIGINAL DOCUMENT**
- ☐ **REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY**
- ☐ **OTHER:** _____

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.